

Exhibit 1 –

Declaration of Paul Thomsen, Ormat
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**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEVADA**

THE FALLON PAIUTE-SHOSHONE
TRIBE and the CENTER FOR
BIOLOGICAL DIVERSITY,

Plaintiffs,

v.

U.S. DEPARTMENT OF THE INTERIOR,
BUREAU OF LAND MANAGEMENT, and
JAKE VIALPANDO in his official capacity
as Field Manager of the Bureau of Land
Management Stillwater Field Office,

Defendants,

and

ORMAT NEVADA INC.,

Defendant-Intervenor-Applicant.

Case No. 3:21-cv-00512-LRH-WGC

DECLARATION OF PAUL THOMSEN

1 I, Paul Thomsen, declare as follows:

2 1. I am over 21 years of age and am fully competent to make this Declaration. The
3 facts contained in this Declaration are based on my personal knowledge and are true and correct.

4 2. I am currently employed by Ormat Nevada Inc. as Vice President, Business
5 Development. Ormat Nevada Inc. is the parent company of ORNI 32, LLC, the project company
6 developing the Dixie Meadows Geothermal Utilization Project (“Project” or “Dixie Meadows
7 Project”). I refer to Ormat Nevada Inc. and ORNI 32, LLC interchangeably in this declaration as
8 “Ormat.” I have been employed with Ormat for over 13 years. In my role as Vice President,
9 Business Development, I am responsible for managing project development activities, including
10 permitting, interconnection, and transmission of Ormat’s renewable energy exploration and
11 development projects throughout North America. I have been involved with the Dixie Meadows
12 Project permitting, exploration, and development since 2017.

13 3. As part of my work on the Project, I am familiar with documents and
14 correspondence associated with the Project.

15 4. I am also familiar with the above-captioned appeal challenging the Bureau Land
16 Management’s (“BLM’s”) November 23, 2021 Decision Record (“Decision”) authorizing the
17 Project. Plaintiffs ask the court to vacate BLM’s Decision and enjoin any construction of the
18 Project as approved by BLM, including implementation of the monitoring program.

19 **Ormat’s History as a Global Leader of Renewable Geothermal Energy**

20 5. Ormat Technologies, Inc. (“Ormat Technologies”) was originally founded in 1965
21 and has been operating in Nevada through Ormat Nevada Inc. since 1985. Ormat Technologies
22 is a leader in geothermal energy production and the only vertically integrated company engaged
23 in geothermal and recovered energy generation (“REG”), with robust plans to accelerate long-
24 term growth and take the lead in the U.S. energy storage market. Ormat owns, operates, designs,
25 manufactures, and sells geothermal and REG power plants primarily based on the Ormat Energy
26 Converter – a power generation unit that converts low-, medium-, and high-temperature heat into
27 electricity. The Company has engineered, manufactured, and constructed renewable power
28 plants, which it currently owns or has installed for utilities and developers worldwide, totaling

1 approximately 3,200 megawatts (“MW”) of gross capacity. Ormat leveraged its core capabilities
2 in the geothermal and REG industries and its global presence to expand its activity into energy
3 storage services, solar photovoltaic (“PV”) and energy storage plus solar PV. Ormat’s current
4 total generating portfolio is 1.1 gigawatts comprised of 1,015 MW of geothermal and solar
5 projects globally in the U.S., Kenya, Guatemala, Indonesia, Honduras, and Guadeloupe, and an
6 83 MW energy storage portfolio located in the U.S.

7 6. Geothermal energy projects harness the clean renewable power contained in
8 geothermal fluids that flow in the molten interior of the earth’s crust. This earth-bound energy is
9 converted from heat to electricity, while preserving the lifecycles of the geothermal reservoir.
10 Unlike other renewable sources, geothermal energy provides base load electricity that is highly
11 reliable, flexible, and produces virtually no greenhouse gas emissions. Thus, geothermal energy
12 encourages a future where fossil fuels are no longer necessary. In the United States, Ormat’s
13 geothermal development projects have played a key role in helping states meet their renewable
14 energy portfolio standards. Ormat operates 22 geothermal projects on federal lands. In
15 particular, Ormat’s McGinness Hills project has been instrumental to Nevada’s efforts to procure
16 50 percent of the state’s energy from renewable sources by 2030.¹ I am aware of no instance in
17 which an Ormat geothermal project caused mortality of a species listed as threatened or
18 endangered under the Endangered Species Act, and Ormat is committed to maintaining this
19 record.

20 7. Ormat prides itself on environmental stewardship, from project design through
21 implementation and eventual reclamation. Ormat’s renewable energy solutions are derived from
22 nature itself, and as a result we place utmost significance on assessing the potential impacts on
23 the local biodiversity and the natural and cultural environments surrounding our power plants.
24 Maintaining the natural biodiversity around our plants is important to a number of our key
25 stakeholder groups, such as local communities, environmental non-governmental organizations,
26 and financing bodies, among others. Accordingly, we strive to design our power generation

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28 ¹ See NEV. CONST. art. 4, § 39, cl. 2(d).

1 facilities to blend into the surrounding landscape, taking into consideration the actual physical
2 location of each facility, the configuration of units that are used to build it, landscaping, and the
3 surrounding natural habitat, among other elements. More information can be found in Ormat's
4 annual Sustainability Report.²

5 **The Long History of the Dixie Meadows Project**

6 8. In 2010, Ormat completed its acquisition of certain geothermal leases in the Dixie
7 Valley area northeast of Fallon, Nevada. The leases were eventually consolidated into the Dixie
8 Meadows Geothermal Unit Area. In 2010 and 2012, the BLM completed two separate
9 Environmental Assessments ("EAs") pursuant to the National Environmental Policy Act
10 ("NEPA") analyzing the potential environmental impacts of geothermal exploration on the
11 leases, including up to 34 well pads and 205.6 acres of surface disturbance. Since approval of
12 the exploration program, Ormat has drilled nine wells and completed pump tests that indicate a
13 robust geothermal resource in the lease area.

14 9. In 2015, Ormat applied to BLM for a geothermal utilization permit to construct
15 two power plants with total power production of up to 60 MW. Nearly two years later, BLM
16 released a draft EA for public comment in 2017. After substantial revisions to the EA in
17 response to public comment—including comments from the Plaintiffs Center for Biological
18 Diversity and the Fallon Paiute-Shoshone Tribe—and further development of the Aquatic
19 Resources Monitoring and Mitigation Plan ("ARMMP"), described in more detail below, BLM
20 released a revised draft EA nearly four additional years later in January 2021 for additional
21 public comment. BLM finally approved the Project in a Decision Record dated November 23,
22 2021. This exceptionally long and thorough review period took years longer than anticipated,
23 and was several years longer than the majority of other Ormat projects permitted on federal land,
24 which have generally taken about two years to permit.

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27 ² Ormat Technologies, Inc., *Sustainability Report 2019*, (available at
28 <https://www.ormat.com/Warehouse/userUploadFiles/Image/Ormat%20Sustainability%20Report%202019.pdf>).

Ormat's 2022 Construction and Monitoring Plans

10. While BLM's Decision authorizes two power plants totaling up to 60 MW, Ormat will begin by constructing a 12 MW facility. Associated with the power plant facilities, BLM has permitted up to 18 geothermal production and injection well sites. However, Ormat anticipates that the existing nine wells already constructed on the site will be sufficient for operations, and no additional wells will be drilled unless scientifically necessary, as determined by Ormat's team of geologists and engineers and approved by BLM, to develop the geothermal resource. The Decision also approves pipelines to carry geothermal fluid between the well fields and the power plants and construction of a 48-mile, 120-kilovolt gen-tie line to transmit power from the facility to the electric grid.

11. Ormat anticipated approval of the Project in January 2021 and was prepared with equipment orders that were delivered in reasonable reliance on that date. Thus, Ormat is ready to begin immediate construction at the site upon BLM's approval. After BLM issues its notice to proceed, Ormat intends to commence initial grading as soon as possible, followed closely by pouring foundations for construction of the power plant facilities and installation of the pipelines and gen-tie line. Ormat will also continue implementation of the ARMMP, including installation of additional monitoring wells and other devices. Commercial Operation, however, will not occur until December 2022, following additional monitoring and refinement of the ARMMP. Thus, construction and testing activities will occur over the next 12 months, but no impacts will occur to the underground geothermal resource or any potentially connected surface water features until at least December 2022. A figure depicting the construction schedule is attached to this declaration.

12. During the next year, construction activities will be periodically visible at the site, and noise will vary depending on activities. To abate noise, mufflers would be used on all drilling rig engines, and rock mufflers would be employed during well testing, as described in Ormat's Plan of Development, Appendix I to the EA. Other best available control technology would be used to minimize noise. Once construction is complete, mitigation measures set out in Ormat's Plan of Development will be employed to minimize visual and noise impacts associated

1 with operations, primarily through equipment design and operations. Also as describe in the
2 Plan of Development, visual impacts will be minimized by reclamation of all previously
3 vegetated areas, applying paint to all facilities in an approved BLM color, and limiting lighting
4 to only those required for safety, which would be shielded or directed to focus only on
5 immediate work areas. The initial power plant location is between 0.25 and 1.5 miles from the
6 Dixie Warm Springs, and while it will be visible from the closest springs, Ormat will minimize
7 those effects to the extent practicable. Indeed, Ormat's exploration wells and activities have
8 already been installed and operated in this area. In designing the Project, Ormat collocated the
9 Project facilities to the extent possible with existing exploration facilities to minimize the overall
10 footprint and impacts on the landscape. Ormat has also committed to installing exclusion
11 fencing and conducting preconstruction surveys by a qualified biologist for Dixie Valley toad in
12 construction areas near special status aquatic wildlife species habitats per Appendix J of the EA.

13 13. Ormat has committed to other substantial monitoring and mitigation measures to
14 avoid or minimize impacts to air, water, cultural, and other resources. Most significantly, in
15 coordination with the Technical Working Group convened by BLM to address comments on the
16 2017 EA and made up of BLM, the Nevada Department of Wildlife, and the U.S. Fish and
17 Wildlife Service, Ormat has committed to implement a comprehensive ARMMP to monitor for
18 and avoid or mitigate impacts of geothermal energy production to nearby water resources and the
19 Dixie Valley toad. As a result of the unusually long environmental review process for this
20 Project, Ormat has already undertaken over two years of systematic ground and surface water
21 monitoring in the Dixie Valley. Under the ARMMP, Ormat will install additional monitoring
22 locations and gather additional water and species baseline data prior to energy production from
23 the Project. The ARMMP identifies "early warning" thresholds and objectives that, if triggered,
24 will require immediate mitigation responses, including, but not limited to, modifying pumping or
25 injection rates of geothermal fluids, altering pumping or injection locations, supplementing or
26 replacing existing water supplies, and temporary cessation of pumping or injection operations.
27 The ARMMP is an adaptive document that, although it has already received extensive review
28 and comment from the parties involved, will be further updated with more precise triggers and

1 mitigation measures upon recommendation of the Technical Working Group as additional
2 baseline data are gathered, groundwater models are refined, and real time monitoring occurs over
3 the next year and beyond.

4 14. From Ormat's perspective as a geothermal lessee, maintaining the quality of the
5 geothermal reservoir in terms of pressure and temperature is about both ensuring that the Project
6 has a minimal impact to the environment as well as ensuring the value of the geothermal
7 resource to ongoing power production. A loss of heat or pressure in the reservoir means a loss of
8 power production. Thus, the geothermal power facilities are designed as a closed-loop system
9 with geothermal fluid from the reservoir being returned without loss of fluid. Ormat is fully
10 invested in ensuring that heat and fluid are not lost as part of the power production process,
11 which has the benefit of also ensuring protection of adjacent water resources that may have some
12 degree of hydrological connection to the geothermal reservoir. For that reason, Ormat is
13 incentivized to avoid impacts to nearby water sources.

14 15. The Dixie Meadows Project will significantly reduce greenhouse gas emissions
15 compared to other baseload energy production facilities, such as power plants using natural gas
16 or coal as a fuel source. For purposes of comparison, a 12 MW binary geothermal facility will
17 avoid 70,000 metric tons of carbon dioxide emissions per year.³ For further comparison, and
18 assuming the Dixie Meadows Project were constructed to its full extent, a 60 MW binary
19 geothermal facility will avoid over 353,859 metric tons of carbon dioxide per year.⁴ The
20 authorized 60 MW geothermal facilities will emit zero tons of carbon dioxide. Geothermal
21 energy is clean. Additionally, unlike wind or solar power, geothermal energy provides a baseline
22 source of power, which contributes to the availability of clean energy 24 hours per day, 7 days
23 per week.

24 **Ormat Will Immediately Suffer Substantial Harm if the Project is Delayed**

25 16. I understand that Plaintiffs are seeking vacatur of BLM's Decision and an
26 injunction precluding or halting any project construction or implementation of the ARMMP. If

27 ³ <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.

28 ⁴ <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.

1 Plaintiffs obtain their requested remedy, it would have substantial, immediate, and potentially
 2 irreversible adverse effects for Ormat and the public interest in development of clean renewable
 3 energy.

4 17. Ormat has invested \$68 million in the 10-year process to begin construction of the
 5 Dixie Meadows Project. Ormat has continued to pursue the Project in large part because Ormat
 6 enjoys a very favorable Power Purchase Agreement (“PPA”) that will allow Ormat to sell power
 7 from the Project for \$75/MW/hour. The terms of the PPA are publicly available.⁵ However, to
 8 take advantage of this contract, Ormat must begin production before the end of 2022. In other
 9 words, construction of the power plant must be complete. Given the extensive delay so far, the
 10 Project is now to the point where a delay of even a few weeks could foreclose Ormat’s ability to
 11 sell power from the Project under the favorable PPA. Not only would Ormat lose considerable
 12 revenues by having to potentially negotiate a PPA at significantly less favorable rates given
 13 current market conditions, Ormat would also have to reevaluate the economic viability of the
 14 Project given the extensive cost commitments to implement the ARMMP associated with the
 15 Project. It is entirely possible that Ormat would be forced to abandon the Project if it loses the
 16 ability to sell power under the favorable terms of its current PPA and the Project is no longer
 17 economically feasible. Thus, for all practical purposes, an injunction of only a few weeks could
 18 literally kill the Project. In that event, Ormat would be out \$68 million in resources already
 19 invested.

20 18. Short of killing the Project, an injunction in this case would likely mean Ormat
 21 would have to negotiate a new, and probably less favorable PPA at a loss of up to \$15/MW/hr
 22 based on current market rates, amounting to a loss of approximately \$150 million over the life of
 23 the 60 MW Project. This would result in reduced royalty returns to the federal government
 24 totaling as much as \$6 million based on royalty rates that would be applied to the Project
 25 revenue. Local and state taxes applied to the Project and energy production would also not be
 26

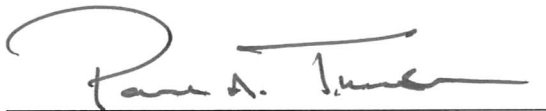
27 _____
 28 ⁵ <https://investor.ormat.com/news-events/news/news-details/2017/Ormat-Secures-First-Portfolio-PPA-for-150-MW-of-Geothermal-Capacity-with-SCPPA/default.aspx>.

1 collected. Ormat's return on investment will be reduced if the Project is delayed and Ormat is
2 forced to incur additional costs to fulfill its contractual obligations.

3 19. Finally, local Nevada companies and workers would also be harmed if the Project
4 does not move forward or is suspended. Ormat uses mostly local Nevada contractors for
5 permitting activity, construction, and maintenance. And, significantly, delaying the Project will
6 also delay bringing online a clean renewable energy source that would replace up to 353,859
7 metric tons of carbon dioxide tons of greenhouse gas emissions annually associated with other
8 power sources.

9 Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true
10 and correct.

11 Executed this 20th day of December, 2021 in Reno, Nevada.
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15 Paul Thomsen
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Attachment 1 to
Declaration of Paul Thomsen –
Ormat Dixie Meadows Geothermal
Utilization Project Anticipated
Construction Schedule

Ormat Dixie Meadows Geothermal Utilization Project Anticipated Construction Schedule

